Pharmacogenetics: Pain Management and Psychotropic Panel

<table>
<thead>
<tr>
<th>Test Code: MPG03</th>
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<td>Turnaround time: 10 days</td>
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<tr>
<td>CPT Codes: 81225 x1, 81226 x1, 81227 x1, 81230 x1, 81231 x1, 81240 x1, 81241 x1</td>
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## Condition Description

Pharmacogenomics (or pharmacogenetics), abbreviated PGx, is the study of how genes affect a person’s response to certain drugs. PGx testing uses genetic information to predict how individual patients will metabolize some prescription medications. This prediction allows an effective dose to be tailored to a person’s genetic makeup, helping to prevent adverse drug reactions. Pharmacogenetics Extended Test targets variants to genotype for various haplotypes among the following 10 genes.

### Genes and Alleles Tested:

- **ANKK1/DRD2 DRD2:Taq1A;**
- **COMT NM_000754.3:c.472G>A(p.V158M); rs4680**
- **OPRM1 NM_000914.3:c.118A>G(p.N40D); rs1799971**

Note that “*” (read as “star”) denotes the common name of a haplotype (or combination of alleles within a gene on the same chromosome).

### Indications

Individuals who meet the defined clinical criteria for being prescribed specific drugs for psychotropic medications and pain management.

### Methodology

The test uses custom manufactured TaqMan® drug metabolism and SNP genotyping assays in 384-well format that are run on the QuantStudio™ 6 Flex platform. The complete test consists of two components: SNP genotyping and copy number quantification. The SNP genotyping component consists of 64 TaqMan® SNP Assays for 63 loci, which include single base and short insertion/deletion polymorphisms. The copy number component consists of one TaqMan® Copy Number assay for the **CYP2D6** gene.

### Specimen Requirements

#### Type: Whole Blood (EDTA)

**Specimen Requirements:**

- EDTA (Purple Top)
- Infants and Young Children (2 years of age to 10 years old): 3-5 ml
- Older Children & Adults: 5-10 ml
- Autopsy: 2-3 ml unclotted cord or cardiac blood

**Specimen Collection and Shipping:**

Ship sample at room temperature for receipt at EGL within 72 hours of collection. Do not freeze.

#### Type: Liquid Buccal Swab

**Specimen Requirements:**

- ORAcollect-DX (OCD-100)|Assisted saliva collection kit
- DNA Genotek ORAcollect-DX kit used according to manufacturer instructions.
- Please contact EGL for a saliva collection kit for patients that cannot provide a blood sample.

**Specimen Collection and Shipping:**

Please do not refrigerate or freeze saliva sample. Please store and ship at room temperature.

### Related Tests

Pharmacogenetics Expanded Panel (MPG01)